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GENUS ALOE: A NEW SECTION AND A NEW SERIES.

(With Plates VIII—XI.)

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Since Berger's Monograph appeared (Engler: *Das Pflanzenreich, Liliac.-Asphodel.-Aloin.* 1908) some 80 new species of *Aloe* have been described from South Africa, including the Mandated Territory of South West Africa and Portuguese East Africa. The majority of the South African species described in the last 32 years have fitted more or less satisfactorily into existing Sections and Series, but 11 species have not, and for these species a distinct new Section and a new Series is required, while a Series already proposed needs amplifying.

The first natural group of closely allied species to be considered comprises the following 5 species:

A. castanea Schonl. (*Rec. Alb. Mus.* II, 1907, p. 138).

A. sessiliflora Pole Evans (*Trans. Roy. Soc.* Vol. V, Part 6, 1917).

A. recurvifolia Groenewald (*Tydskrif vir Wetenskap en Kuns*, Okt. 1935, p. 38).

A. vryheidensis Groenewald (*l.c.* Apr. 1937, p. 129).

A. dolomitica Groenewald (*l.c.* Aug. 1938, p. 178).

This group differs so considerably from other species of *Aloe* as almost to approach the rank of a Sub-genus, but it is considered safer to regard them as constituting a distinct new Section, for which the name *Anguialoe* is proposed. The epithet is suggested by the somewhat "snake-like" character of the racemes, the type species being *A. sessiliflora*.

The species comprising this new Section are all characterised by their elongate, densely-flowered racemes with short campanulate flowers, the flowers sessile except in *A. castanea.* Although *A. castanea* bears flowers 1—3 mm. pedicellate, it obviously belongs here. *A. castanea* is the largest in the Section, mature specimens reaching a height of 2—5 met., branched about the middle into 10—25 crowns, with the inflorescence sometimes reaching 2 met., of which the raceme is sometimes 1 met.

The smallest in the Section is *A. vryheidensis*, which usually has a short decumbent stem, while a character of this species, not known in any other *Aloe*, is the ovary which has a thin pale red stripe down the 3 broad angles. It might be mentioned here that I have also observed this character in natural crosses of *A. vryheidensis* with *A. Marlothii* and with *A. arborescens.* It seems therefore that the character " red-striped ovary " is dominant in *A. vryheidensis* crosses.

In *A. dolomitica* the leaves are thick, fleshy and forming a compact rosette, while this species is the only one in the Section with a somewhat bicoloured raceme with reddish buds and greenish-yellow flowers.

A surprising feature of *A. recurvifolia* is its very small flowers. This stately plant, with a robust stem 2—3 met. high, and deeply channelled recurved leaves 1·3 met. long, bears almost globular flowers only 9 mm. long! These are the shortest flowers known in the Genus Aloe. The small soft-leafed *Leptaloe parviflora* (Bak.) Stapf is described with flowers 8 mm. long, while the other *Leptaloes*, *L. minima*, *L. albida*, *L. myriacantha* and *L. Saundersiae*, all have flowers 3—5 mm. longer than those of *A. recurvifolia.*

The other 4 species bear flowers 12—20 mm. long, with a very copious supply of dark nectar, the flowers being at least half full. It appears that the nectar is a little clearer in *A. sessiliflora*, *A. recurvifolia* and *A. castanea*, and a darker brown in *A. vryheidensis* and *A. dolomitica.* It also seems that in all five species there is a tendency for the nectar to be lighter coloured in the youngest flowers, and darker in the oldest ones.

The following Diagnosis is proposed for the new Section, which in Berger's arrangement (l.c. 160-162) falls after Sect. III *Eualoe* and before Sect. IV *Pachydendron.* A key to the species is also appended.

SECT. ANGUIALOE Reynolds Sect. nov.

Caules breviter procumbentes usque ad erecti, robusti. *Folia* dense rosulata carnosa, ensiformia, utrinque immaculata, marginibus dentibus corneis armata. *Inflorescentia* simplex, 1—5 ex eodem rosulam. *Racemi* cylindracei elongati densissime multiflori. *Flores*

Fig. 1. Fig. 2. Fig. 3.

Plate VIII. *A. sessiliflora*, Pole Evans.

Fig. 1. Plants in natural habitat, near Nelspruit, Eastern Transvaal.
Fig. 2. Raceme with portion of peduncle (reduced).
Fig. 3. Flowers 1/1 from bud to post-pollination stage. *Note:* The flowers are sessile; a portion of the axis with bract is shown. In the second lowest flower, a portion of the axis is included, this is not a short pedicel.

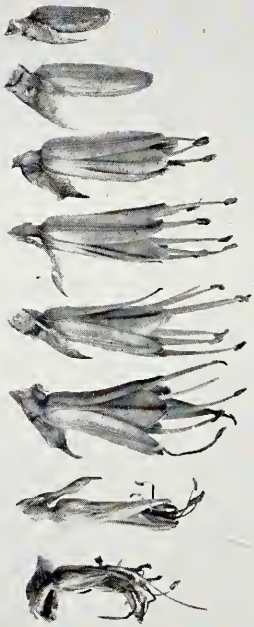

Fig. 1. Fig. 2.

Plate IX. *Aloe castanea*, Schonl.

Fig. 1. Plant about 12 feet high ; in natural habitat, near Burgersfort, Eastern Transvaal.
Fig. 2. Flowers natural size.

plerumque sessiles, rarius brevissime pedicellati. *Perigonium* campanulatum, 9—20 mm. longum, segmentis liberis. *Genitalia* valde exserta.

Stem sometimes shortly procumbent, usually erect, robust. *Leaves* densely rosulate, fleshy, ensiform, unspotted, with dentate margins. *Inflorescence* simple, 1—5 from a rosette. *Racemes* cylindrical, elongate, very densely multiflowered. *Flowers* sessile, rarely shortly pedicellate. *Perianth* campanulate, 9—20 mm. long, segments free. *Genitals* much exserted.

KEY TO THE SPECIES.

Leaves densely rosulate, ensiform : inflorescence simple ; racemes elongate cylindric, densely flowered, flowers campanulate with a copious supply of dark nectar ; segments free ; genitals much exserted :

A. Flowers sessile :
  1. Stem short, decumbent :
    a. Perianth 18—20 mm., rose coloured, ovary with 3 pale red stripes (the only species with this character) .. .. *A. vryheidensis.*
  2. Stem erect, 1—3 met. long :
    a. Leaves spreading, racemes 30 cm. long. unicoloured greenish-yellow, perianth 14 mm. *A. sessiliflora.*
    b. Rosettes compact, racemes somewhat bicoloured with reddish buds, greenish-yellow flowers, perianth 12—14 mm. .. .. .. *A. dolomitica.*
    c. Leaves deeply channelled and recurved, racemes unicoloured lemon-yellow, perianth 9 mm. *A. recurvifolia.*

B. Flowers shortly pedicellate :
  1. Plants 2—5 met. high, branched into 10—25 crowns :
    a. Flowers 1—3 mm. pedicellate, perianth reddish-brown, 18—19 mm. .. .. .. *A. castanea.*

. . . . . .

The second group for consideration comprises 3 species which obviously constitute a natural and distinctive series. These are :

A. striata Haw. (*Trans. Linn. Soc.* VII (1804), p. 18).

A. karasbergensis Pillans (*Journ. of Bot.* vol. 66 (1928), p. 233).

A. Reynoldsii Letty (*Fl. Plants S.A.*, Part 56, Oct. 1934, Plate 558).

Berger (l.c. 195) places *A. striata* in the series *Saponariae* of Sub-sect. *Humiles* of *Exaloe*, but *A. striata* is hardly a near ally of such species as *A. saponaria*, *A. grandidentata* and *A. transvaalensis* which are typical

of *Saponariae*. Possibly Berger was influenced by the shape of the flowers, but the size of rosettes and kind of leaves of *A. striata*, *A. karasbergensis* and *A. Reynoldsii* are so entirely different as to constitute a distinctive closely allied group, and to merit a distinct Series being erected for them. For these reasons a new Series *Striatae* is proposed, based on *A. striata*, and falling after the present Series *Saponariae*.

The 3 species in this Series closely resemble each other in general habit of growth, shape and size of leaf, racemes, shape and size of flowers, but they are easily separated by their distinctive leaf markings, inflorescence and colour of flowers.

The largest in the Series is *A. striata* with stout peduncles and corymbose-paniculate inflorescences up to 1 met. high. *A. karasbergensis* is distinguished by its pyramidal panicle, the top of the terminal branch standing out above the others, the buds obscurely dull whitish striped, with pale coral-red flowers tipped with green. The leaves are also conspicuously dark-green veined. In cultivation *A. karasbergensis* is variable in flowering period; in Johannesburg plants have flowered in my garden in September, November, January and February.

A. Reynoldsii differs from the others with "H" spotted leaves, minutely dentate crenulate margins, and lower inflorescence with yellow flowers.

The following Diagnosis is proposed, while a key to the species is appended:

SERIES STRIATAE, Reynolds Ser. nov.

Acaulescens vel breviter caulescens. *Folia* dense rosulata, ovato-lanceolata, carnosa, crassa, integra vel minute denticulata et crenulata, striato-nervata, interdum obscure maculata. *Inflorescentia* umbellato- vel corymboso-paniculata. *Racemi* sublaxe capitati. *Bracteae* deltoideo-acuminatae. *Perigonium* basi subgloboso-inflatum, supra ovarium leviter constrictum, hinc fauces versus ampliatum. *Segmenta* exteriora per 5—8 mm. libera. *Genitalia* brevissime exserta.

Plants acaulescent or with short procumbent stems. *Leaves* densely rosulate, ovate-lanceolate, acuminate, entire or minutely dentate with crenulate margins. *Inflorescence* an umbellate or subcorymbose panicle. *Perianth* up to 30 mm. long, with subglobose basal swelling, slightly constricted above ovary, thence enlarging towards the throat. *Outer segments* free 5—8 mm. *Genitals* very shortly exserted.